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EXAMINER	
MCLEAN, NEIL R	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/763,700	FELIX ET AL.	
	Examiner	Art Unit	
	Neil R. McLean	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The corrected drawings were received on 12/13/2007.

Response to Arguments

2. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

3. In response to applicant's argument that "the addition of a server to Nishikawa does not explain how a practitioner in the art could have modified the Nishikawa reference to join together print jobs after despooling". The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined

teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Regarding Applicant's Argument:

"Nishikawa does not disclose a process that joins together print jobs after despooling, as recited in claims 1 and 14. Neither does Nishikawa disclose a performance analysis that only joins together print jobs if it is economical to do so, as recited in claims 1 and 14. Therefore, Nishikawa does not explicitly disclose every limitation of independent claims 1 and 14."

Examiner's Response:

Nishikawa does not disclose expressly performing a merger performance analysis; and

determining that the economy of joining the plurality of print jobs exceeds the job joining overhead;

Barry discloses expressly performing a merger performance analysis;

Determining that the economy of joining the plurality of print jobs exceeds the job joining overhead;

Providing a response as to whether the print jobs can be joined.

"The Destination Queue process block 2106, however, has the versatility and capability to reroute the job based upon availability, speed considerations, cost considerations, etc. as described in Column 26, lines 17-20)."

"As such, the use of a programmatic algorithm parameterized upon information in the original PDL file will allow multiple routing decisions to be made. These decisions can be a function of user defined metrics, such as cost, time constraints, etc. For example, there may be a trade off between toner cost and speed. One destination queue may be an *economy* queue and will always select the one of the printers having the lowest cost per page. With knowledge of the amount of toner that will be used, a decision can be made between various available printers. If turnaround is paramount, a priority queue may be provided that will select the fastest printer as the output device. The decision is all based upon the metrics defined in the script associated with the queue. Further, decisions can be made as to the availability of the printer for the job. If a printer has a low toner level for a particular job, this would render this printer as unavailable for a priority job" as described in Column 31, lines 49-65 and Figure 21

Nishikawa & Barry are combinable because they are from the same field of endeavor of image processing; e.g., both references use Print Spoolers.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a means for performance analysis that takes into account economic considerations prior to assigning a print job.

The suggestion/motivation for doing so would have been to save money by having a predetermined algorithm based on economics.

Therefore, it would have been obvious to combine Barry with Nishikawa to obtain the invention as specified

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3-14, and 16-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (US 6,934,046) in view of Barry et al. (US 7,099,027).

Regarding Claim 1:

Nishikawa et al. discloses the method for de-spooler job joining (Column 1, lines 9-14), the method comprising:

at a client device (e.g., Host 3000 in Figure 3; Column 5, lines 61-66), despooling (Despooler 305 in Figure 3; Column 8, lines 40-46) a plurality of print jobs;

joining the plurality of print jobs into a single joined print job (See System Spooler 204 in Figures 2 and 3; Note: In Figure 3, the Spooled File 303 is Despooled at 305 and after going through the Print Driver 203 is Spooled again by the System Spooler

204 just prior to going to the Printer 1500; The System Spooler 204 as perceived by the Examiner, 'joins print jobs' after being Despooled at 305.) and,

rendering (Column 9, lines 51-52) the joined print job as a single continuous print job.

Nishikawa does not disclose expressly performing a merger performance analysis; and

determining that the economy of joining the plurality of print jobs exceeds the job joining overhead;

Barry discloses expressly performing a merger performance analysis;

Determining that the economy of joining the plurality of print jobs exceeds the job joining overhead;

Providing a response as to whether the print jobs can be joined.

The Destination Queue process block 2106, however, has the versatility and capability to reroute the job based upon availability, speed considerations, cost considerations, etc. as described in Column 26, lines 17-20).

As such, the use of a programmatic algorithm parameterized upon information in the original PDL file will allow multiple routing decisions to be made. These decisions can be a function of user defined metrics, such as cost, time constraints, etc. For example, there may be a trade off between toner cost and speed. One destination queue may be an *economy* queue and will always select the one of the printers having the lowest cost per page. With knowledge of

the amount of toner that will be used, a decision can be made between various available printers. If turnaround is paramount, a priority queue may be provided that will select the fastest printer as the output device. The decision is all based upon the metrics defined in the script associated with the queue. Further, decisions can be made as to the availability of the printer for the job. If a printer has a low toner level for a particular job, this would render this printer as unavailable for a priority job as described in Column 31, lines 49-65 and Figure 21.

Nishikawa & Barry are combinable because they are from the same field of endeavor of image processing; e.g., both references use Print Spoolers.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a means for performance analysis that takes into account economic considerations prior to assigning a print job.

The suggestion/motivation for doing so would have been to save money by having a predetermined algorithm based on economics.

Therefore, it would have been obvious to combine Barry with Nishikawa to obtain the invention as specified in Claim 1.

Regarding Claim 3:

Nishikawa et al. further discloses the method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes joining the plurality of print jobs at the client device (Column 8, lines 59-67); and,

the method further comprising:

sending the joined print job to an imaging device (Column 7, lines 32-36).

Regarding Claim 4:

Nishikawa et al. further discloses the method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:

concatenating the plurality of print jobs (Column 3, lines 24-27); and

creating a single spool file with multiple raster image processes (RIPs) (Column 21, lines 48-53).

Regarding Claim 5:

Nishikawa et al. further discloses the method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:

generating a RIP for each print job (Column 8, lines 14-18), with RIP end/start instructions (Column 8, lines 22-24);

removing the RIP end/start instructions (Column 8, lines 18-22);

concatenating the plurality of RIPs (Column 8, lines 59-63); and,

creating a single spool file with a single RIP (Column 8, lines 64-67).

Regarding Claim 6:

Nishikawa et al. further discloses the method of claim 5 wherein generating a RIP for each print job, with RIP end/start instructions, includes generating instructions

(Column 8, lines 47-53) selected from the group including universal exit language (UEL), printer reset, @PJL header sequence, and @PJL EOJ.

Regarding Claim 7:

Nishikawa et al. further discloses the method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:

converting each print job into an image format file (e.g., PDL; Column 7, lines 29-32); and,

merging the image format files into a single RIP (Column 21, lines 24-27).

Regarding Claim 8:

Nishikawa et al. further discloses the method of claim 7 wherein converting each print job into an image format file includes converting each print job into an image format file selected from the group including TIFF, JPEG, Windows bitmap, and PDF format files (Column 8, lines 16-18).

Regarding Claim 9:

Nishikawa et al. further discloses the method of claim 1 further comprising: prior to joining the plurality of print jobs, accepts static control selection commands (e.g., Figure 8); and,

wherein joining the plurality of print jobs into a single joined print job includes joining the jobs in response to the selected static controls (See Figures 27 and 30).

Regarding Claim 10:

Nishikawa et al. further discloses the method of claim 9 wherein accepting static control selection commands includes selecting a control from the group including print job format, print job document type, threshold printing instructions, and printing delay instructions (e.g., Figure 22).

Regarding Claim 11:

Nishikawa et al. further discloses the method of claim 1 further comprising: accepting dynamic control selection commands;

analyzing dynamic conditions at run-time (Column 22, lines 21-32); and,

wherein joining the plurality of print jobs into a single joined print job includes joining the jobs in response to the dynamic conditions and the selected dynamic controls (Column 22, lines 33-35).

Regarding Claim 12:

Nishikawa et al. further discloses the method of claim 11 wherein accepting dynamic control selection commands includes selecting controls from the group including the number of pending print jobs (e.g., Figure 30 shows example of a screen for editing the composed job), a merger performance analysis, inter-RIP conflicts analysis, and post-merger inter-RIP conflict resolution.

Regarding Claim 13:

Nishikawa et al. further discloses the method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:

converting each print job into a raster format file specific to an imaging device's rendering engine(e.g., PDL; Column 7, lines 29-32); and,

merging the raster format files into a single RIP (Column 21, lines 24-27).

Regarding Claim 14:

Nishikawa et al. discloses a system for de-spooler job joining (Column 1, lines 9-14), the system comprising:

a merger unit (e.g., Host 3000 in Figure 3; Column 5, lines 61-66) having an interface to receive a plurality of despooled print jobs (Despooler 305 in Figure 3; Column 8, lines 40-46), the merger unit joining the plurality of print jobs into a single joined print job (Column 8, lines 59-67) supplied at an interface (two way interface 121 in Figure 1); and,

an imaging device print controller (PRTC in Figure 1) having an interface (two way interface 121 in Figure 1) to accept the joined print job and an interface to supply a document rendered as a single continuous print job (Column 9, lines 51-52).

Nishikawa does not disclose expressly performing a merger performance analysis; and

determining that the economy of joining the plurality of print jobs exceeds the job joining overhead;

Barry discloses expressly performing a merger performance analysis;

Determining that the economy of joining the plurality of print jobs exceeds the job joining overhead;

Providing a response as to whether the print jobs can be joined.

The Destination Queue process block 2106, however, has the versatility and capability to reroute the job based upon availability, speed considerations, cost considerations, etc. as described in Column 26, lines 17-20).

As such, the use of a programmatic algorithm parameterized upon information in the original PDL file will allow multiple routing decisions to be made. These decisions can be a function of user defined metrics, such as cost, time constraints, etc. For example, there may be a trade off between toner cost and speed. One destination queue may be an *economy* queue and will always select the one of the printers having the lowest cost per page. With knowledge of the amount of toner that will be used, a decision can be made between various available printers. If turnaround is paramount, a priority queue may be provided that will select the fastest printer as the output device. The decision is all based upon the metrics defined in the script associated with the queue. Further, decisions can be made as to the availability of the printer for the job. If a printer has a low toner level for a particular job, this would render this printer as

unavailable for a priority job as described in Column 31, lines 49-65 and Figure 21.

Nishikawa & Barry are combinable because they are from the same field of endeavor of image processing; e.g., both references use Print Spoolers.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a means for performance analysis that takes into account economic considerations prior to assigning a print job.

The suggestion/motivation for doing so would have been to save money by having a predetermined algorithm based on economics.

Therefore, it would have been obvious to combine Barry with Nishikawa to obtain the invention as specified in Claim 14.

Regarding Claim 16:

Nishikawa et al. further discloses the system of claim 14 further comprising:

a client device (e.g., Host 3000 in Figure 1 and 2) including:

a spooler (spooler 302 in Figure 3) with an interface to receive print jobs and an interface (121 in Figure 1) to supply the received print jobs;

a de-spooler (305 in Figure 3) having an interface to receive the print jobs from the spooler and an interface to supply despooled print jobs to the merger unit;

wherein the merger unit (e.g., Spool File Manager 304 in Figure 3) is logically connected with the client device, the merger unit having a network-connected interface (121 in Figure 1) to supply the joined print job to the imaging device print controller; and,

wherein the imaging device print controller (PRTC 108 in Figure 1) has a network-connected interface (121 in Figure 1) to receive the joined print job from the client device merger unit.

Regarding Claim 17:

Nishikawa et al. further discloses the system of claim 14 wherein the merger unit joins the plurality of print jobs into a single joined print job by concatenating the plurality of print jobs Column 3, lines 24-27), and creating a single spool file with multiple raster image processes (RIPs) (Column 21, lines 48-53).

Regarding Claim 18:

Nishikawa et al. further discloses the system of claim 14 wherein the merger unit joins the plurality of print jobs into a single joined print job by:

generating a RIP for each print job (Column 8, lines 14-18), with RIP end/start instructions (Column 8, lines 22-24);

removing the RIP end/start instructions (Column 8, lines 18-22);

concatenating the plurality of RIPs (Column 8, lines 59-63); and,

creating a single spool file with a single RIP (Column 8, lines 64-67).

Regarding Claim 19:

Nishikawa et al. further discloses the system of claim 18 wherein the merger unit generates RIP end/start instructions (Column 8, lines 47-53) selected from the group including universal exit language (UEL), printer reset, @PJL header sequence, and @PJL EOJ.

Regarding Claim 20:

Nishikawa et al. further discloses the system of claim 14 wherein the merger unit joins the plurality of print jobs into a single joined print job by converting each print job into an image format file (e.g., PDL; Column 7, lines 29-32), and merging the image format files into a single RIP (Column 21, lines 24-27).

Regarding Claim 21:

Nishikawa et al. further discloses the system of claim 20 wherein the merger unit converts each print job into an image format file selected from the group including TIFF, JPEG, Windows bitmap, and PDF format files (Column 8, lines 16-18).

Regarding Claim 22:

Nishikawa et al. further discloses the system of claim 14 wherein the merger unit has a static condition user interface (UI) for selecting static controls prior to joining the

plurality of print jobs (e.g., Figure 8), the merger unit joining the plurality of print jobs into a single joined print job in response to the selected static controls (See Figures 27 and 30).

Regarding Claim 23:

Nishikawa et al. further discloses the system of claim 22 wherein the merger unit is responsive to static controls selected from the group including print job format, print job document type, threshold printing instructions, and printing delay instructions (e.g., Figure 22).

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Regarding Claim 24:

Nishikawa et al. further discloses the system of claim 14 wherein the merger unit has a dynamic condition UI for selecting dynamic controls, the merger unit analyzing dynamic conditions at run-time (Column 22, lines 21-32) and joining the plurality of print jobs into a single joined print job in response to the dynamic conditions and the selected dynamic controls (Column 22, lines 33-35).

Regarding Claim 25:

Nishikawa et al. further discloses the system of claim 24 wherein the merger unit accepts dynamic controls selected from the group including the number of pending print jobs (e.g., Figure 30 shows example of a screen for editing the composed job), a merger performance analysis, inter-RIP conflicts analysis, and post-merger inter-RIP

conflict resolution.

Regarding Claim 26:

Nishikawa et al. further discloses the system of claim 14 further comprising:

an imaging device rendering engine (e.g., print engine 117 in Figure 1) having an interface (e.g., input unit 118 in Figure 1) to accept the rendered document from the print controller (PRTC 108 in Figure 1) and an interface (two way interface 121 Figure 1) to supply documents in a format selected from the group including paper media, archive documents, and scanned image data.

Regarding Claim 27:

Nishikawa et al. further discloses the system of claim 26 wherein the merger unit joins the plurality of print jobs into a single joined print job by converting each print job into a raster format file which is specific to the imaging device's rendering engine (e.g., PDL; Column 7, lines 29-32), and merging the raster format files into a single RIP (Column 21, lines 24-27).

6. Claims 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa and Barry as applied to claims 1 and 14 above, and further in view of Reilly (US 6,502,147).

Regarding Claim 2:

Nishikawa and Barry discloses the method of claim 1 further comprising:

receiving the plurality of print jobs at an imaging device (Nishikawa; Column 8, lines 54-58);

Nishikawa and Barry do not expressly disclose wherein the server computer 4 of Figure 4 is located in the printer.

Reilly discloses wherein the print server resides within the printer (Column 1, lines 43-54).

Nishikawa, Barry and Reilly are combinable because they are from the same field of endeavor of image processing; e.g., all references incorporate network printing systems.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have included the host computer 3000 of Figure 3 in the printer of Nishikawa and Barry.

The suggestion/motivation for combining the printer and print server is to reduce the cost (Column 2, lines 40-45; Reilly).

Therefore, it would have been obvious to combine the network interface of Reilly with the network printing system of Nishikawa and Barry to obtain the invention as specified in Claim 2.

Regarding Claim 15:

Nishikawa et al. discloses the system of claim 14 wherein the merger unit is logically connected with the imaging device (e.g., Figure 3); and,

the system further comprising:

a spooler (302 in Figure 3) having a network-connected interface (e.g., Figure 2) to receive print jobs and an interface to supply the received print jobs (Column 5, lines 53-60); and,

a despooler (e.g., 305 in Figure 3) having an interface to receive the print jobs from the spooler and an interface to supply (121 in Figure 1) despooled print jobs to the merger unit.

Nishikawa and Barry do not expressly disclose wherein the server computer is located in the printer.

Reilly discloses wherein the print server resides within the printer (Column 1, lines 43-54).

Nishikawa, Barry and Reilly are combinable because they are from the same field of endeavor of image processing; e.g., all references incorporate network printing systems.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have included the host computer 3000 of Figure 3 in the printer of Nishikawa and Barry.

The suggestion/motivation for combining the printer and print server is to reduce the cost (Column 2, lines 40-45; Reilly).

Therefore, it would have been obvious to combine the network interface of Reilly with the network printing system of Nishikawa and Barry to obtain the invention as specified in Claim 14.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Roberts et al. (US 6,476,930) discloses a method and apparatus for printing and automatically assembling an electronic document.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. McLean whose telephone number is (571)270-1679. The examiner can normally be reached on Monday through Friday 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571.272.7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Neil R. McLean/
Examiner, Art Unit 2625
03/05/2008

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